

A Fire Detector for Monitoring Inaccessible Areas in Aircrafts, Phase I

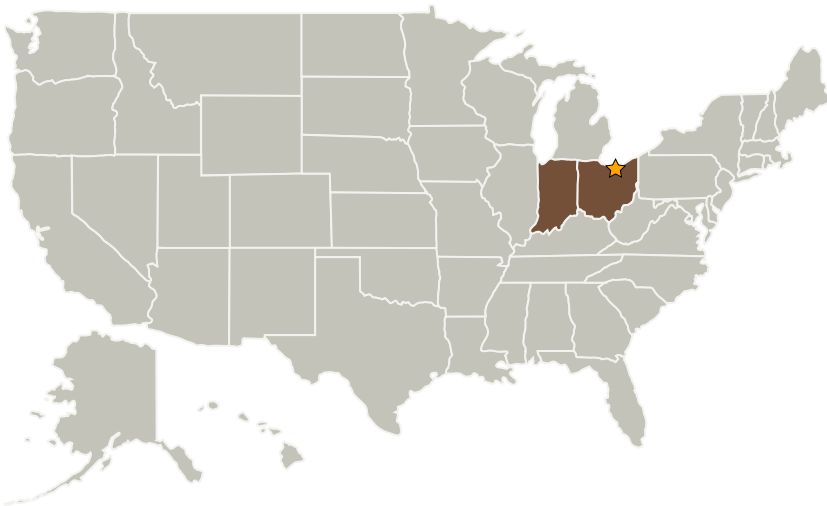


Completed Technology Project (2006 - 2006)

Project Introduction

En'Urga Inc. will evaluate the feasibility of utilizing reflected, multi-wavelength, near infrared radiation for detecting fires in inaccessible areas within aircraft. The two key issues that will be addressed during the proposed work are: (1) the feasibility of obtaining near infrared radiation signatures from inaccessible areas through multiple internal reflections within the enclosure, and (2) the feasibility of decoding the signatures with sufficient fidelity so as to eliminate false alarms. Three Phase I tasks are planned to address the feasibility of the proposed project. The first task is to design and fabricate a system for obtaining near infrared radiation signatures within an instrument rack, representative of the inaccessible areas in aircrafts. The second task is to develop a fire detection system that readily discriminates between real fires and false alarms. The final task is to evaluate the system in a laboratory. It is anticipated that at the end of the Phase I work, the feasibility of utilizing reflected near infrared radiation for uniquely distinguishing fires would have been demonstrated. For Phase II work, a prototype, low cost and low weight system will be fabricated and evaluated both at En'Urga Inc. and at the microgravity facilities at the NASA Glenn Research Center.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
En'Urga Inc	Supporting Organization	Industry Small Disadvantaged Business (SDB)	West Lafayette, Indiana

Primary U.S. Work Locations

Indiana	Ohio
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.4 Environmental Monitoring, Safety, and Emergency Response
 - └ TX06.4.2 Fire: Detection, Suppression, and Recovery